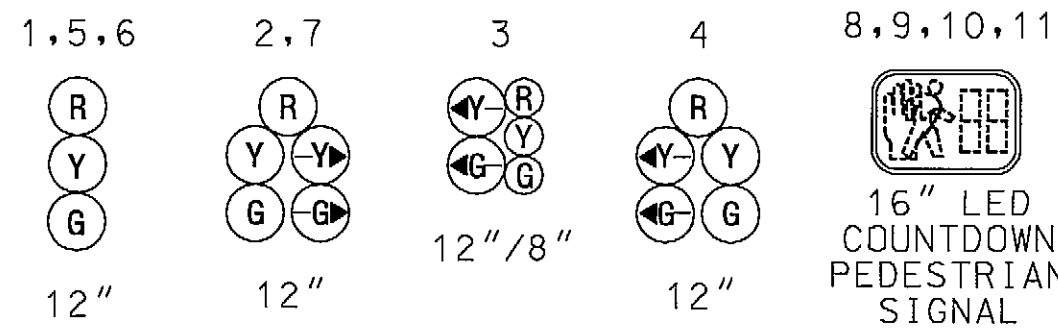


MD 648E IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION

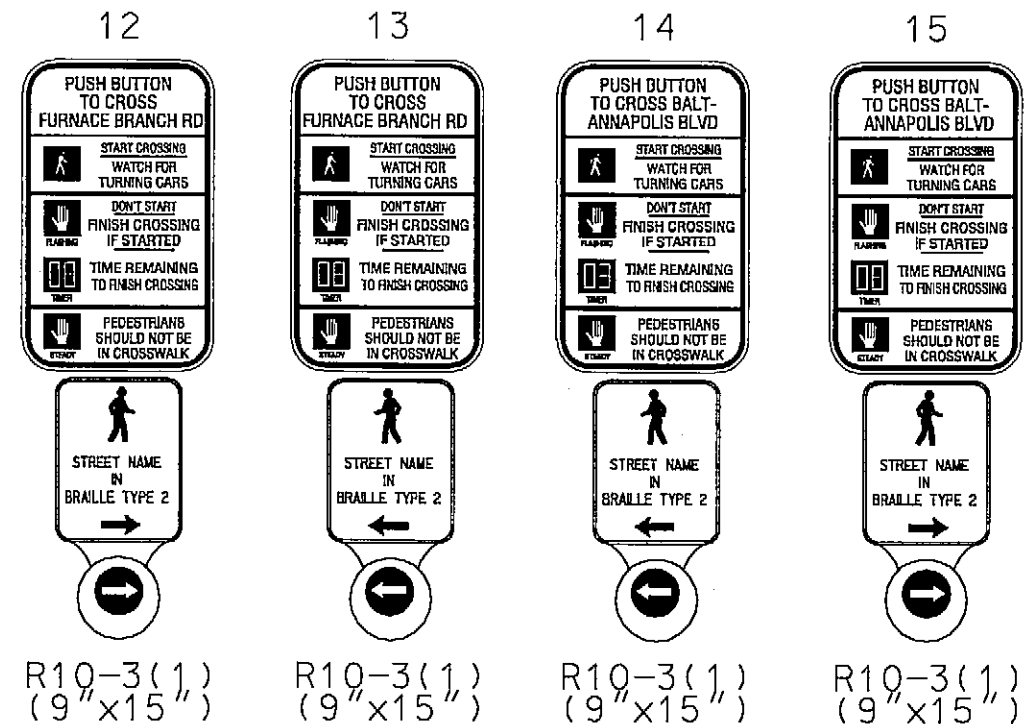


PROPOSED VIDEO DETECTION

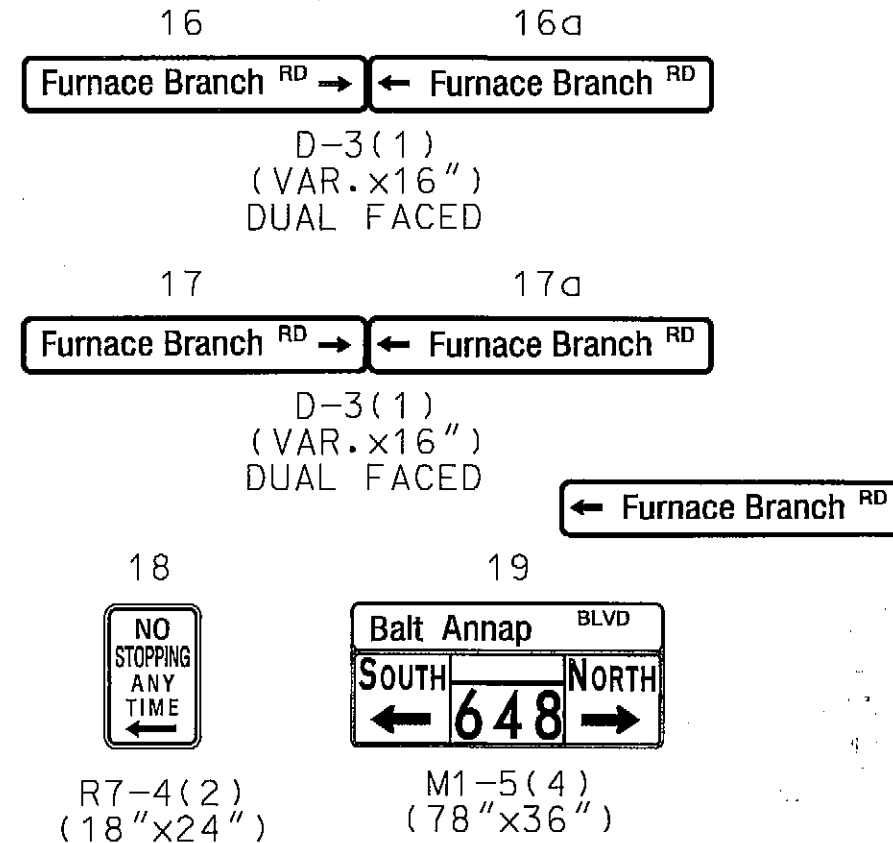


LINE HEIGHTS (LH) 1  
COMMUNICATION - 22'-4"  
SECONDARY - 28'-0"+

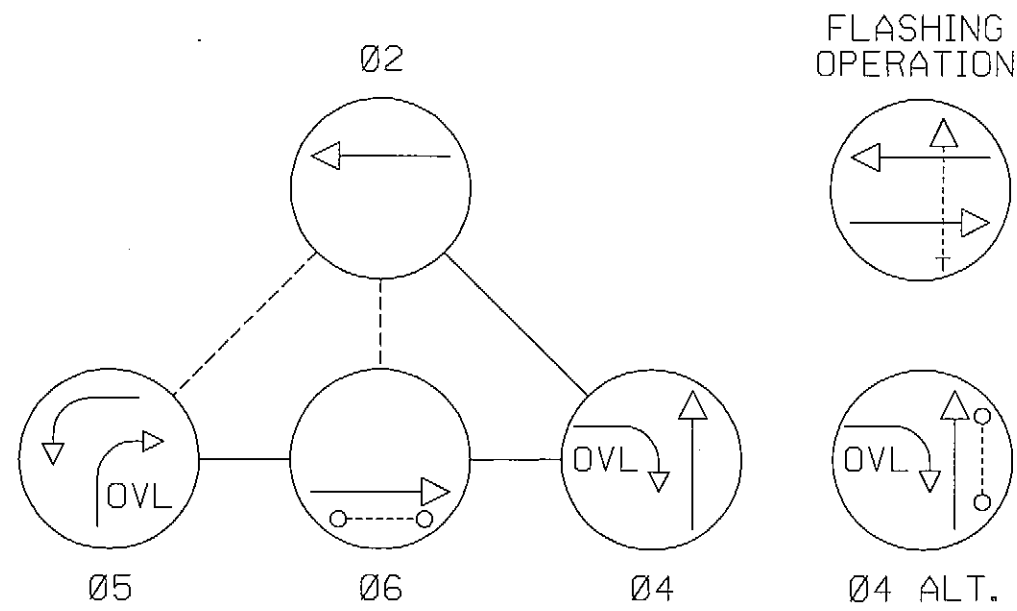
PROPOSED AUDIBLE/TACTILE PUSHBUTTON AND SIGN



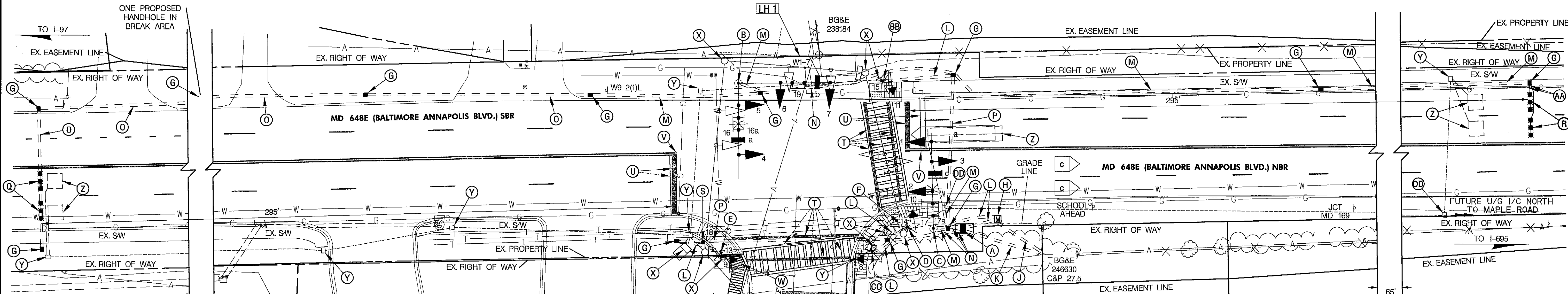
PROPOSED SIGNS



NEMA PHASING

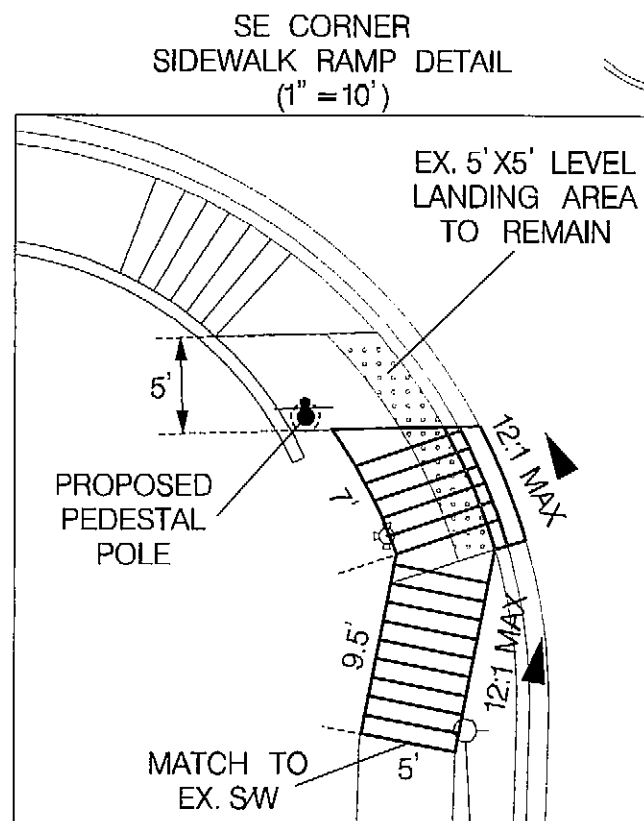


NOTE: PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.



CONSTRUCTION DETAILS

- INSTALL NEMA SIZE "S" BASE MOUNTED CABINET AND CONTROLLER ON FOUNDATION WITH ALL NECESSARY EQUIPMENT (NOTE: 2-2 IN. AND 2-4 IN. 90 DEGREE PVC BENDS).
- INSTALL 27 FT. STEEL POLE WITH TWIN 80 FT. MAST ARMS (CUT BOTH ARMS TO 38 FT.), FOUNDATION, LED TRAFFIC SIGNAL HEADS, STARS, VIDEO DETECTION CAMERAS AND 15 FT. LIGHTING ARM WITH 250 WATT HPS LUMINAIRE (NOTE: 1-3 IN. PVC 90 DEGREE BEND).
- INSTALL 27 FT. STEEL POLE WITH A 38 FT. MAST ARM, FOUNDATION, LED TRAFFIC SIGNAL HEADS, SIGN, LED COUNTDOWN PEDESTRIAN SIGNAL HEAD, VIDEO DETECTION CAMERA AND 15 FT. LIGHTING ARM WITH 250 WATT HPS LUMINAIRE (NOTE: 1-3 IN. PVC 90 DEGREE BEND).
- INSTALL 10 FT. BREAKAWAY PEDESTAL POLE WITH FOUNDATION SHA STD. MD 801.01-01, BREAKAWAY COUPLINGS, LED COUNTDOWN PEDESTRIAN SIGNAL HEAD, AUDIBLE/TACTILE PUSHBUTTON (ARROW LEFT) AND SIGN R10-3(1) "PUSH BUTTON TO CROSS BALTIMORE ANNAPOLIS BLVD." (NOTE: 1-2 IN. PVC 90 DEGREE BEND).
- INSTALL 10 FT. BREAKAWAY PEDESTAL POLE WITH FOUNDATION SHA STD. MD 801.01-01, BREAKAWAY COUPLINGS, LED COUNTDOWN PEDESTRIAN SIGNAL HEAD, AUDIBLE/TACTILE PUSHBUTTON (ARROW LEFT) AND SIGN R10-3(1) "PUSH BUTTON TO CROSS FURNACE BRANCH RD." (NOTE: 1-2 IN. PVC 90 DEGREE BEND).
- CONSTRUCT 5 IN. CONCRETE SIDEWALK PAD (4 FT. x 5 FT.) (SEE NOTE 22).
- INSTALL ELECTRICAL HANDHOLE.
- INSTALL METERED SERVICE PEDESTAL (NOTE: 3-2 IN. AND 1-4 IN. PVC 90 DEGREE BENDS WITH 3/4 IN. CONDUIT FOR GROUND WIRE).
- INSTALL 4 IN. SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT (TRENCHED) - FOR PROPOSED UNDERGROUND POWER SERVICE, CAP AND MARK CONDUIT, AND LEAVE A 1 FT. STUB AT UTILITY POLE FOR USE BY OTHERS.
- INSTALL 4 IN. SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT (TRENCHED).
- INSTALL 4 IN. SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT (TRENCHED).
- INSTALL 4 IN. SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT (BORED) (SEE NOTE 21).
- INSTALL 4 IN. SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT (BORED).
- INSTALL NON-INVASIVE MICROLOOP PROBE SET.
- INSTALL MICROLOOP PROBE SET.
- INSTALL GROUND MOUNTED SIGN ON ONE 4 IN. x 4 IN. WOOD POST.
- REMOVE EXISTING PAVEMENT MARKINGS AND INSTALL 12 IN. WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS FOR CROSSWALK.
- REMOVE EXISTING PAVEMENT MARKINGS AND INSTALL 24 IN. WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS FOR SHOULDER.
- INSTALL 5 IN. HEAT APPLIED DOUBLE YELLOW PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS.
- REMOVE PORTION OF EXISTING LEVEL LANDING AREA, LEAVING A 5 FT. x 5 FT. LEVEL LANDING AREA WITHIN THE PROPOSED CROSSWALK, AND CONSTRUCT A 12:1 MAXIMUM SLOPE SIDEWALK RAMP FROM EXISTING LEVEL LANDING AREA TO END OF THE EXISTING RAMP. (SEE DETAIL THIS SHEET).
- REMOVE AND DISPOSE OF EXISTING TRAFFIC SIGNAL EQUIPMENT. REMOVE FOUNDATION 12 IN. BELOW GRADE AND FILL WITH SELECT BACKFILL. CAP AND ABANDON ANY EXISTING CONDUIT.
- REMOVE EXISTING HANDHOLE AND FILL WITH SELECT BACKFILL. CAP AND ABANDON ANY EXISTING CONDUIT.
- ABANDON EXISTING LOOP DETECTOR.
- INSTALL 1 IN. FLEXIBLE LIQUID TIGHT NON-METALLIC DETECTOR SLEEVE.
- INSTALL 10 FT. BREAKAWAY PEDESTAL POLE WITH FOUNDATION SHA STD. MD 801.01-01, BREAKAWAY COUPLINGS, LED COUNTDOWN PEDESTRIAN SIGNAL HEAD, AUDIBLE/TACTILE PUSHBUTTON (ARROW RIGHT) AND SIGN R10-3(1) "PUSH BUTTON TO CROSS BALTIMORE ANNAPOLIS BLVD." (NOTE: 1-2 IN. PVC 90 DEGREE BEND).
- INSTALL 10 FT. BREAKAWAY PEDESTAL POLE WITH FOUNDATION SHA STD. MD 801.01-01, BREAKAWAY COUPLINGS, LED COUNTDOWN PEDESTRIAN SIGNAL HEAD, AUDIBLE/TACTILE PUSHBUTTON (ARROW RIGHT) AND SIGN R10-3(1) "PUSH BUTTON TO CROSS FURNACE BRANCH RD." (NOTE: 1-2 IN. PVC 90 DEGREE BEND).
- EXISTING HANDHOLE TO REMAIN FOR FUTURE I/C.



GENERAL NOTES

- MAINTENANCE OF TRAFFIC WILL BE HANDLED BY THE CONTRACTOR UTILIZING MSHA STANDARD TYPICALS FOR TRAFFIC CONTROL.
- THE CONTRACTOR SHALL CONTACT MISS UTILITY TO VERIFY ALL UNDERGROUND UTILITIES PRIOR TO THE INSTALLATION OF PROPOSED SIGNAL EQUIPMENT. IF ANY UTILITY CONFLICTS ARISE THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER.
- ALL TRAFFIC SIGNAL FOUNDATIONS SHALL BE INSTALLED AT THE FINAL SIDEWALK OR CURB GRADE FOR CLOSED SECTIONS. HIGHEST ROADWAY PROFILE GRADE FOR OPEN SECTIONS, TO MEET CLEARANCES AS SPECIFIED IN MD 816.03, MD 818.01, MD 818.02, MD 818.04. THE CONTRACTOR SHALL VERIFY ULTIMATE GRADES PRIOR TO THE INSTALLATION OF ALL SIGNAL EQUIPMENT.
- THE SHA SIGNAL SHOP WILL BE RESPONSIBLE FOR ALL INTERNAL CABINET WIRING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ROUTING AND PROPERLY LABELING ALL SIGNAL CABLES.
- THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL ABANDONED ELECTRICAL CABLES.
- ALL EXISTING TRAFFIC SIGNAL EQUIPMENT REMOVED SHALL BECOME THE PROPERTY OF THE SIGNAL CONTRACTOR UPON COMPLETION OF THE SIGNAL MODIFICATION.
- THE CONTRACTOR SHALL VERIFY THE PROPOSED POLE AND CABINET LOCATION(S) PRIOR TO INSTALLATION.
- SEE GENERAL INFORMATION SHEET FOR PROPOSED TRAFFIC SIGNAL EQUIPMENT AND PAVEMENT MARKING LAYOUTS.
- THE CONTRACTOR SHALL CENTER THE PROPOSED CROSSWALKS ON THE EXISTING RAMPS.
- ALL PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH MSHA STANDARDS.
- VIDEO CAMERA LOCATION/ALIGNING SHALL BE COORDINATED WITH THE SHA ENGINEER.
- LOCATION OF ACCESSIBLE PEDESTRIAN SIGNAL PUSHBUTTONS MUST MEET LOCATION REQUIREMENTS OF MUTCD SEC. 4E.09 AND FIG. 4E-21 AND THE NCHRP PUBLICATION "ACCESSIBLE PEDESTRIAN SIGNALS: GUIDE TO BEST PRACTICE." IF NOT MET, THE CONTRACTOR IS TO STOP WORK ON PUSHBUTTON LOCATIONS UNTIL THE CONFLICT HAS BEEN RESOLVED. IF NEEDED, A DESIGN WAIVER SHALL BE OBTAINED, APPROVED BY THE DIRECTOR, OFFICE OF TRAFFIC AND SAFETY.
- PUSHBUTTON IS TO BE LOCATED SO THAT A PEDESTRIAN IN A WHEELCHAIR LOCATED ON THE LEVEL LANDING AREA DOES NOT HAVE TO REACH MORE THAN 18 IN.
- THE 10 FT. SEPARATION BETWEEN PUSHBUTTONS IS TO BE MEASURED FROM FACE OF PUSHBUTTON TO FACE OF PUSHBUTTON, NOT CENTER OF POLE TO CENTER OF POLE.
- ALL TRAFFIC SIGNAL EQUIPMENT INCLUDING CONDUIT SHALL BE CONSTRUCTED PRIOR TO SIDEWALK INSTALLATION.

- THE CONTRACTOR SHALL REMOVE AND REPLACE CONCRETE SIDEWALK AT THE NEAREST JOINT.
- THE CONTRACTOR SHALL ENSURE THE EXISTING TRAFFIC SIGNAL REMAINS OPERATIONAL UNTIL RECONSTRUCTED TRAFFIC SIGNAL IS OPERATIONAL.
- PUSHBUTTONS ARE TO BE LOCATED SO THAT THEY CAN BE ACTIVATED BY A PERSON IN A WHEELCHAIR FROM A 60 IN. x 60 IN. LEVEL LANDING AREA. A WHEELCHAIR LEVEL LANDING AREA IS AN AREA WITH A CROSS SLOPE OF LESS THAN OR EQUAL TO 2%.
- PUSHBUTTON ARROWS ARE TO BE PARALLEL TO THE CROSSING FOR WHICH THEY ARE INTENDED.
- ALL PROPOSED LUMINAIRES SHALL BE SUPPLIED WITH A PHOTOCELL.
- THE CONTRACTOR SHALL BORE PORTIONS OF PROPOSED CONDUIT BENEATH EXISTING DRIVEWAYS FOR THE NBR ADVANCED DETECTION. ALL OTHER PORTIONS OF PROPOSED CONDUIT SHALL BE TRENCHED.
- THE CONTRACTOR SHALL SHALL CONSTRUCT A CONCRETE PAD AT 24 AS AN EXTENSION OF THE EXISTING LEVEL LANDING AREA TO PROVIDE ACCESSIBILITY TO PROPOSED PUSHBUTTON.
- ALL HANDHOLES FOR MICROLOOP/NON-INVASIVE PROBES SHALL BE INSTALLED WITH THE LONG DIMENSION OF THE HANDHOLE PERPENDICULAR TO THE ROADWAY AS SHOWN.
- VIDEO DETECTION CAMERA (b) SHALL BE PROGRAMMED FOR PRESENCE AND SET-BACK DETECTION ALONG FURNACE BRANCH ROAD.



STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
OFFICE OF TRAFFIC & SAFETY  
TRAFFIC ENGINEERING DESIGN DIVISION  
MD 684E (BALTIMORE ANNAPOLIS BOULEVARD)  
AT FURNACE BRANCH ROAD  
FERNDALE, MARYLAND

TRAFFIC SIGNALIZATION PLAN SHEET

SCALE 1" = 20' ADVERTISED DATE 09-25-75 CONTRACT NO.	DESIGNED BY	COUNTY	ANNE ARUNDEL
DRAWN BY KGA	LOGMILE	02E64806.07	
CHECKED BY	TMS NO.		
F.A.P. NO.	TOD NO.		
TS NO. 1467E	DRAWING SG-01	OF 02	SHEET NO. 01 OF 02

PLOTTED: Monday, November 28, 2011 AT 07:43 PM  
FILE: I:\PROJECTS\MD648E\01\MD648E\_0000\Drawings\TRAFFIC-SG-P000\_MD648.dgn



STV Incorporated  
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Baltimore, MD 21244  
www.stvinc.com

GEOMETRIC LEGEND

EXISTING PROPOSED

UTILITY LEGEND

E	E	ELECTRIC CABLES	SD	SD	STORM DRAIN
A	A	AERIAL CABLES	G	G	GAS MAIN
T	T	TELEPHONE CABLES	W	W	WATER MAIN
F	F	FIBER-OPTIC	S	S	SEWER MAIN

BY: youngsd